Stantec Analytical Validation Checklist Report No. ASZ37

Project Name: Amtrak North Yard	Project Number: 213402048
Validator: Jim Tezak	Laboratory: Eurofins/Lancaster Laboratory
Date Validated: 9/26/2018	Laboratory Project Number: 1492878
Sample Start-End Date: 7/30/2014	Laboratory Report Date: 8/14/2014

Parameters Validated:

Polychlorinated biphenyls (PCBs) by EPA SW-846 3546/8082A - solid matrix

PCBs by EPA SW-846 3580A/8082A - oil matrix

Percent Solids by SM 2540 G

Samples Validated:

Track 16, LLI # 75550717 (Grab Sediment)
Track 17, LLI # 75550718 (Grab Sediment)
IW-MH-5, LLI # 75550719 (Grab Sediment)
Dust Bin, LLI # 75550720 (Grab Sediment)
IW-MH-4, LLI # 75550721 (Grab Sediment)
Track 12-1, LLI # 75550722 (Grab Sediment)
Track 13-OIL, LLI # 75550723 (Grab Oil)
Track 12-2, LLI # 75550724 (Grab Sediment)
Track 13-1, LLI # 75550725 (Grab Sediment)
Track 13-2, LLI # 75550726 (Grab Sediment)
Bobcat, LLI # 75550727 (Grab Sediment)
IW-MH-4 Deep Well, LLI # 75550728 (Grab Sediment)
IW-MH1-A, LLI # 75550729 (Grab Sediment)
IW-MH-1, LLI # 75550730 (Grab Sediment)
IW-MH-2, LLI # 75550731 (Grab Sediment)

VALIDATION CRITERIA CHECK

Validation Flags Applicable to this Review:

U The analyte was analyzed for, but not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ Result is estimated quantity but the result may be biased high.

J- Result is estimated quantity but the result may be biased low.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

B The analyte was detected in the method, field, and/or trip blank.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

	Yes	No
1. Were all the analyses requested for the samples submitted with each COC completed by the lab?	**X**	

Comments:

2. Did the laboratory identify any non-conformances related to the analytical result?		Yes **X**	No
Comments: The laboratory summarized samples with out-of-control surrogate spike recoveries in the case narrative. Specific samples are discussed in this DUSR under item 10, below.			
3. Were sample Chain-of-Custody forms complete?		Yes	No **X**
Comments: Samples were submitted on two chains-of-custody (COCs), COC #338858 and COC #343857. For all samples listed on COC #343857, no analysis was checked. The analysis "PCBs By 8082" was listed under the Analysis Requested section, but the box on the COC was not checked for any samples. The laboratory analyzed all samples listed on the COC for PCB Aroclors by method SW-846 8082A.			
4. Were samples received in good condition and at the appropriate temperature?		Yes **X**	No
Comments: The laboratory noted on the Sample Administration Receipt Documentation Log that there was no custody seal present when the samples were received.			
5. Were sample holding times met?		Yes **X**	No
Comments:			
6. Were correct concentration units reported?		Yes **X**	No
Comments: Results for all soil samples were reported in units of micrograms per kilogram (ug/kg).			
7. Were detections found in laboratory blank samples?		Yes	No **X**
Comments:			
8. Were detections found in field blank, equipment rinse blank, and/or trip blank samples?	NA **X**	Yes	No
Comments: No field blanks were submitted in this sample delivery group (SDG).			
9. Were instrument calibrations within method criteria?	NA **X**	Yes	No
Comments: Not Applicable, Level 2 data validation.			

10. Were surrogate recoveries within control limits?		Yes	No **X**
Comments: High recoveries were reported for the surrogates decachlorobiphenyl (DCB) and/or tetrachloro-m-xylene (TCX) in the samples Track 16 (DCB=251%), Track 17 (TCX=1,007%, DCB=2,421%), IW-MH-5 (TCX=485%, DCB=1,398%), Dust Bin (DCB=164%), IW-MH-4, LLI # 75550721 (DCB=363%), Track 12-1 (DCB=306%), Track 12-2 (DCB=324%), Track 13-1 (TCX=159%, DCB=645%), and Track 13-2 (TCX=25,101%, DCB=1,064%). These recoveries were the result of high sample dilutions (all dilution factors were 100X or higher); therefore, no corrective action was required. No data were qualified since the surrogates were diluted out. The percent recovery (%R) for DCB was below the control limits of 30-150% published in the 2014 National Functional Guidelines (NFGs) and less than 10% in the samples Bobcat (8%) and IW-MH-4 Deep Well (8%). Detected results for Aroclors in these samples were qualified as J- (estimated with a low bias) and non-detects were qualified as R (rejected). Reason code: SUR The %R for DCB was >200% in the samples IW-MH1-A (327%), IW-MH-1 (211%) and IW-MH-2 (507%). Detected results for Aroclors in these samples were qualified as J+. Reason code: SUR			
11. Were laboratory control sample(s) (LCS/LCSD) sample recoveries within control limits?		Yes **X**	No
Comments:			
12. Were matrix spike (MS/MSD) recoveries within control limits?	NA **X**	Yes	No
Comments: Not applicable; site-specific MS/MSD not analyzed for this SDG.			
13. Were RPDs within control limits?		Yes	No
Comments: Not applicable; site-specific MS/MSD not analyzed for this SDG.			
14. Were dilutions required on any samples?		Yes **X**	No
Comments: Fourteen sediment samples required dilution prior to analysis, with dilution factors ranging from 5X to 5,000X. Sample reporting limits were adjusted accordingly. No data were qualified.			
15. Were Tentatively Identified Compounds (TIC) present?	NA **X**	Yes	No
Comments: TIC not requested.			
16. Were organic system performance criteria met?	NA **X**	Yes	No
Comments: Not Applicable, Level II data validation.			
17. Were GC/MS internal standards within method criteria?	NA **X**	Yes	No
Comments: Not Applicable, Level II data validation.			

18. Were inorganic system performance criteria met?	NA	Yes	No
		X	
Comments:			

19. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results.	Yes	No
		X
Duplicate Sample ID **Primary Sample No.**		
Comments:		
No blind field duplicates were submitted with this SDG. The lack of a field duplicate did not affect data quality, usability, or completeness. Completeness with regard to collection of the required number of field duplicates will be assessed on an overall program-wide basis.		

20. Were at least 10 percent of the hard copy results compared to the Electronic Data Deliverable Results?	Yes	No	Initials
	X		KEF
Comments:			

21. Other?	Yes	No
		X
Comments:		
All samples were validated according to the USEPA 2014 NFGs and DNREC SOPCAP. For PCB Aroclor analysis, two sediment samples, Bobcat and IW-MH-4 Deep Well, had less than 10% recovery for the surrogate DCB. Results for individual Aroclors that were non-detect in these samples are rejected and qualified as R due to the low surrogate spike recovery.		
No other data were rejected. All other data are considered usable as qualified.		

PRECISION, ACCURACY, METHOD COMPLIANCE AND COMPLETENESS ASSESSMENT

Precision:	Acceptable X	Unacceptable	Initials JET
Comments:			
Sensitivity:	Acceptable X	Unacceptable	Initials JET
Comments:			
Accuracy:	Acceptable X	Unacceptable	Initials JET
Comments:			
Representativeness:	Acceptable X	Unacceptable	Initials JET
Comments:			
Method Compliance:	Acceptable X	Unacceptable	Initials JET
Comments:			

Completeness:	Acceptable X	Unacceptable	Initials JET
Comments: Completeness of the data set is 90% (defined as the percentage of analytical results that are considered to be valid).			